NOTES ON UHLERIOLA FLORALIS (UHL.) IN ILLINOIS (HETEROPTERA, LYGAEIDAE).[1]

By James A. Slater, Urbana, Ill.

This paper reports *Uhleriola floralis* from Illinois for the first time, together with remarks on its habits and descriptions of the fourth and fifth instar nymphs.

On April 12, 1947, a hibernating colony of this species was discovered at Bondville, Illinois. The hibernation site was under a board and about the roots of burned over grass clumps along a railroad right of way. The insects were active when discovered but still confined to a small area of a yard or two in extent. Several hundred individuals were present at the site. This gregarious type of hibernation was previously reported by Daniels (1929) who discovered a similar hibernating cluster beneath a large rock in Colorado. Gillette and Baker (1895) report *U. floralis* from beneath stones in company with the ant *Formica neoclara* Emery.

Specimens taken from the hibernating site were placed in rearing cages where they fed readily upon lettuce and both fruits and foliage of strawberries. The insects copulated but failed to oviposit, the last female dying on June 14. Copulation takes place in the "reversed" or end-to-end position, which is apparently the normal position for the majority of Lygaeidae.

The general distribution of *U. floralis* is western in the United States. Torre-Bueno (1946) reports it from Colorado, Montana, and California; also from Arizona. That the range extends considerably eastward is now established. The H. M. Harris collection has several specimens from Iowa. In addition to the locality discussed above two other Illinois records are at hand. The Illinois Natural History Survey has a specimen from Summit, Illinois, and there is a specimen in the author's collection from Park Ridge, Illinois. Both of these locations are in the northeast portion of Illinois.

[1] Contribution No. 278 from the Entomological Laboratories of the University of Illinois, Urbana.

My appreciation is extended to the following persons for assistance in the formulation of this paper: Mr. Sol Kramer for discovery of the central Illinois hibernation site, Mr. C. F. W. Muesebeck and Dr. Reece Sailer for the loan of immature stages from the collections of the U. S. national Museum, Dr. H. H. Ross and Dr. H. M. Harris for allowing me to examine material in the Illinois Natural History Survey and H. M. Harris Collections respectively, and Mr. Frank F. Hasbrouck for reading and criticizing the manuscript.

Immature Stages.

Fourth instar (pinned):

Similar to fifth instar in form and color, but darker, particularly on the pronotum which is ferrugineous-brown; antennae bright ferrugineous and concolorous; second abdominal tergite and basal two-thirds of third reddish-tan; a dark median spot on the fifth abdominal tergite connects spots of second and third abdominal scent gland openings.

Mesothoracic wing pads barely attaining the first abdominal tergite caudad; fore femora only slightly swollen; fourth antennal segment fusiform. Length of antennal segments I: II: III: IV. 0.31 mm., 0.57 mm., 0.52 mm., 0.75 mm. Length of body 3.63 mm. Width between eyes 0.55 mm.

Fifth instar (pinned):

Elongate, very robust; general color bright ochraceous, brownish at base of pronotum; mesal and basal portions of the mesothoracic wing pads, exposed mesal portion of metathoracic wing pads, margins of conjunctiva between third and fourth abdominal tergites, a median apical spot on eighth tergite, all of ninth tergite, large spots on meson of sixth, seventh, and eighth abdominal sternites, and apical segment of rostrum varying shades of dark brown; conjunctiva between tergites three and four broadly margined with white; abdominal segments from five to apex dull reddish; legs ferrugineous; small black area about each abdominal scent gland opening.

Head small; pronotum subquadrate, slightly less than twice as wide as long, anterior margin deeply concave, posterior feebly sinuate, lateral margins broadly explanate, not divided into two lobes by a transverse constriction, but with two shallow transverse depressions near the posterior margins; mesothoracic wing pads reaching caudad to the third abdominal tergite, lateral margins broadly explanate; abdominal scent gland openings three, on conjunctiva between tergites three and four, four and five, and five and six, equal in size; conjunctiva between tergites three and four appearing bifurcate near the lateral margins, the above three conjunctiva curving cephalad from meson to margin; tarsal segments two, basal segment of metatarsus considerably longer than apical segment; rostrum reaching metacoxae; body sparsely clothed with short hairs. Length of antennal segments I: II: III: IV. 0.43 mm., 0.85 mm., 0.75 mm., fourth missing. Length of body 5.45 mm. Width between eyes 0.69 mm.

Bibliography.

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Gregarious Treehopper.—It is not uncommon in Utah to find nymphal and adult treehoppers of certain species, congregating on limited areas of infested ragweed, sweet clover and certain other plants, particularly during their breeding season. This gregarious condition was quite evident on a number of blossoming heads of goldenrod (*Solidago*) along the roadside three miles east of Murray, Utah on the cold fall day of October 7, 1946. 34, 27, 14, 9, as well as smaller numbers of *Pubilia modesta* Uhler were counted from among the phyllaries and along the main stem, within the individual heads. In the above small goldenrod patch, 9 of the 27 stems still contained heads in full anthesis, which housed one or more treehoppers. In addition, eight of 11 dry heads examined sheltered one or more of the treehoppers with 26 and 17 adult *modesta* occurring in the two most populated flower heads; 1 to 5 occurred in the other six heads. A few treehoppers also were found to be present near the apex of still green goldenrod plants, the tops and blossoms of which were lacking, 4 to 7 being maximum numbers encountered where no blossoms were present. No treehopper nymphs, but a few sluggish ants, *Formica* sp., also were present on plants where treehoppers were most numerous. G. F. Knowlton, Logan, Utah.